

## TITLE: A GOLF-BALL PUSHING DEVICE

### BACKGROUND OF THE INVENTION

#### (a) Technical Field of the Invention

The present invention relates to device for golfing, and in particular, a  
5 golf-ball pushing device that employs a blower to deliver a ball via use of  
sensors.

#### (b) Description of the Prior Art

FIG. 1 discloses a self golf-ball pushing device beneath a soft ball holding  
rod. When the pedal 101 positioned at the side of the device is stepped, a  
10 golf ball is discharged from the outlet and the ball is placed at the upper end of  
the ball holding rod for swinging. Taiwanese Patent Publication Nos. 271086,  
281925, 291099, 296643, 308893 and 343555 discloses a dispensing device  
10 for golf ball and the elevating mechanism for the dispensing. The  
drawback of the conventional device is to manually place the ball onto the  
15 upper end of the ball holding rod.

## SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a golf-ball pushing device with a seat body having a blower, a golf-ball pushing module, and a golf-ball delivery module characterized in that the golf-ball pushing

5 module includes a motor positioned within the seat body of the pushing device and a pushing mechanism which is capable of repeating a pushing movement, and the pushing mechanism reaches a receiving seat at the side of the seat body, the receiving seat is mounted with sensor and a ball-entry tube such that

10 when a golf-ball is dropped to the ball-entry tube, the sensor linked to the motor triggers the ball-pushing module to move forward; the ball-delivery module includes a covering seat and a ball-delivery tube, and the covering seat is linked to the receiving seat of the ball-pushing module, and the covering seat is connected to the ball-delivery tube; and the blower is connected to the ball-delivery tube which provides wind to the ball-delivery tube.

15 Still another object of the present invention is to provide a golf-ball pushing device wherein the seat body and the receiving seat 12 are formed by the extension of a top plate and a bottom plate, and a long rail and a short rail are positioned the two plates, the long rail is located at the two sides of the interior of the seat body, and the short rail is located at the two sides of the

20 interior of the receiving seat, and the long rail and the short rail are

respectively provided with recess at the inner side thereof, and the pushing mechanism includes a cam and a pushing seat and the pushing seat is provided with recess at the sides thereof, and the pushing seat has an arch-shaped through hole and the cam is pivotally mounted at the through hole; thereby the  
5 motor drives the cam to rotate, and the cam is pushed to move within the through hole so that the pushing seat is repeatedly pushed forward and backward, and when the pushing seat is pushed backward, the interior of the receiving seat is formed into a cavity allowing a golf ball to drop and to hold the golf ball, and when the pushing seat moves forward to the receiving seat,  
10 the golf ball is pushed forward to the covering seat.

The foregoing object and summary provide only a brief introduction to the present invention. To fully appreciate these and other objects of the present invention as well as the invention itself, all of which will become apparent to those skilled in the art, the following detailed description of the  
15 invention and the claims should be read in conjunction with the accompanying drawings. Throughout the specification and drawings identical reference numerals refer to identical or similar parts.

Many other advantages and features of the present invention will become manifest to those versed in the art upon making reference to the detailed  
20 description and the accompanying sheets of drawings in which a preferred

structural embodiment incorporating the principles of the present invention is shown by way of illustrative example.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG 1 is a perspective view of a conventional self ball-delivery device.

FIG 2 is a perspective view of a golf-ball pushing device in accordance with the present invention.

5      FIG 3 is a perspective exploded view of a golf-ball pushing device in accordance with the present invention, without a blower.

FIG 4 is a top view of a golf-ball pushing device in accordance with the present invention, prior to forward movement.

10      FIG 5 is a top view of a golf-ball pushing device in accordance with the present invention, a forward movement being made.

FIG 6 is a side view showing the movement of a golf-ball pushing device in accordance with the present invention.

FIG 7 is a schematic view of a golf-ball pushing device in accordance with the present invention.

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## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The following descriptions are of exemplary embodiments only, and are not intended to limit the scope, applicability or configuration of the invention in any way. Rather, the following description provides a convenient  
5 illustration for implementing exemplary embodiments of the invention.

Various changes to the described embodiments may be made in the function and arrangement of the elements described without departing from the scope of the invention as set forth in the appended claims.

Referring to FIGS. 2 and 3, there is shown a golf-ball pushing device  
10 having a device seat a including a golf ball pushing module 1, a ball delivery module 2 and a blower 3.

In accordance with the present invention, the golf-ball pushing module 1 includes a seat body 11, a receiving seat 12 and pushing mechanism 13 within the seat. The pushing mechanism 13 is located within the seat body 11 and is  
15 operated by a motor M. The pushing movement will extend to the interior of the receiving seat 12 at the lateral side of the seat body 11. The receiving seat 12 includes sensor S and a ball-entry tube 14 such that the ball 4 will drop to the receiving seat 12 from the ball-entry tube 14, and the sensor S links to motor M to trigger the pushing mechanism 13 to proceed with the pushing  
20 movement. The seat body 11, the receiving seat 12 are formed by the

extension of the top plate P1 and the bottom plate P2, and there is a long rail 15 and a short rail 16 positioned in between. The long rail 15 is located at the two sides of the interior of the seat body 11, and the short rail 16 is located at the two sides of the interior of the receiving seat 12, as shown in FIGS. 4 and 5.

5 The long rail 15 and the short rail 16 are respectively provided with recess 151, 161 at the inner side thereof. The pushing mechanism 13 includes a cam 131 and a pushing seat 132. The pushing seat 132 is provided with the recess 151, 161 at the sides, thereof and the pushing seat 132 is an arch-shaped through hole 133. The cam 131 is pivotally mounted at the through hole 133.

10 When the motor M drives the cam 131 to rotate, the cam 131 is pushed to move within the through hole 133 so that the pushing seat 132 is repeatedly pushed forward and backward, as shown in FIGS. 4 and 5. When the pushing seat 132 is pushed backward, the interior of the receiving seat 12 is formed into a cavity 5, allowing a golf ball to drop and to be held. When the

15 pushing seat 132 moves forward to the receiving seat 12, the golf ball 4 is pushed to go forward. In addition, the pushing seat 132, corresponding to the upper side face of the short rail 16, a protruded platform 1321 is provided, and the front edge of the lower side face is provided with a protruded pillar 1322 to exert onto the golf ball 4. The sensor S at the receiving seat 12 is positioned

20 at the outer lateral side of the short rail 16. The seat body 11 is connected to

an inclined frame 17 such that the entire structure is inclined as shown in FIG 6.

The ball-delivery module 2 includes a covering seat 21 and a ball-delivery tube 22. The covering seat 21 is in communication with the receiving seat 12 of the ball-pushing module 1, and is also in communication with the ball-delivery tube 22. The ball-delivery tube 22 is provided with a through hole (not shown) at the covering seat 21.

The blower module 3 is connected to the ball-delivery tube 22, which provides strong wind to the ball-delivery tube 22 so that the golf ball 4 is delivered.

In operation, the golf ball 4 is dropped to the receiving seat 12 from the cavity 5 of the ball-entering tube 1, as shown in FIGS. 4 and 6. The sensor S initiates the motor M to trigger the pushing mechanism 13 to perform a pushing action. That is, the cam 131, within the through hole 133 of the pushing seat 132, is pushed so that the pushing seat 132 is pushed. The ball 4 at the cavity 5 is pushed to the covering seat 21 of the ball-delivery module 2 to drop to the ball-delivery tube 22, as shown in FIG 5. After that, the blower 3 generates wind and the dropped golf ball will automatically trigger the sensor of the ball-pushing device. The device of the present invention can be applied before a golf ball self-dispensing device d, as shown in FIG 7. The



device can also be used as a separate unit.

In addition, the ball-delivery module 2, at the covering seat 21, is mounted with a sensor S which is connected to the blower 3 such that when the ball 4 is pushed to the sensor S, and is sensed, a signal to the blower 3 to  
5 generate wind is transmitted. Thus, the blower 3 does not need to be at a standby state. As long as the sensor S has sensed a signal, wind is generated.

It will be understood that each of the elements described above, or two or more together may also find a useful application in other types of methods differing from the type described above.

10 While certain novel features of this invention have been shown and described and are pointed out in the annexed claim, it is not intended to be limited to the details above, since it will be understood that various omissions, modifications, substitutions and changes in the forms and details of the device illustrated and in its operation can be made by those skilled in the art without  
15 departing in any way from the spirit of the present invention.